



Kennedy Jenks

DNUS Revision
Request #1

March 12, 2021

Mr. Scott Cardno
Director, DNR & EM
City of Huntsville
Natural Resources & Environmental Management Division
320 Fountain Circle SW
Huntsville, AL 35801

Subject: Request for Air Permit to Construct
DaikyoNishikawa USA, Inc. (DNUS)

To Mr. Cardno:

DaikyoNishikawa USA, Inc. (DNUS) is in the process of constructing a plastic parts manufacturing plant (herein defined as the Facility) at the location of the Mazda Toyota Manufacturing, U.S.A., Inc. (MTMUS) vehicle assembly plant, which is located in Huntsville, Alabama. This Facility will provide plastic parts to MTMUS and is considered part of the overall major stationary source that includes the MTMUS assembly process and the various Onsite Partners (OSP) that are located at the MTMUS plant site.

DNUS is proposing to add two touch-up coating booths at the Facility. The touch-up coating booths will be used to repair parts produced at the Facility. One booth will be used to repair parts that have been produced by the Facility's slush molding process and the second touch-up booth will be used to repair plastic parts produced at the Facility.

The attached document is being submitted by Kennedy/Jenks Consultants on behalf of DNUS. This document identifies the proposed emission units and provides sufficient support documentation so that the COH can conduct a review of the proposed emission units. DNUS is requesting that a new PSD Air permit be issued that is specific to the two proposed touch-up booths.

If you should have any questions regarding the content of this application, please address all questions or comments to Mr. Steven Frey at (847) 278-7705 or by email at stevefrey@kennedyjenks.com.

Very truly yours,

Steven A. Frey
Principal / Community of Practice Leader -Air Services

Kennedy/Jenks Consultants

1515 E Woodfield Road, Suite 360
Schaumburg, IL 60173
847-278-7700
FAX 847-517-6870



*DNUS
Renewal
Request #1*

Request for Air Permit to Construct

Prepared for:
DaikyoNishikawa USA, Inc. (DNUS)
9000 Greenbrier Parkway NW, Unit #95
Huntsville, Alabama 35756

Prepared by:
Kennedy/Jenks Consultants
Point of Contact: Mr. Steven Frey
stevefrey@kennedyjenks.com
Phone: 847-278-7705

Application Date: March 12, 2021

Table of Contents

Executive Summary		
1	Introduction	1-1
	1.1 Issuance of Air Permit	1-1
	1.2 Construction / Commencement of Operation Schedule	1-2
	1.3 Point of Contact for this Air Permit Request	1-2
	1.4 Application Content	1-2
2	Description of Proposed Addition of Two (2) Touch-up Coating Booths	2-1
	2.1 Addition of Two (2) Touch-up Coating Booths – New Emission Source	2-1
	2.1.1 Description of Proposed New Emission Units: Unit OSP-4-SMTUB – Touch-up Coating Booth for Slush Molding Parts and Unit: OSP-4-PPTUB – Touch-up Coating Booth for Plastic Parts	2-1
	2.1.2 Potential to Emit a Regulated Air Pollutant	2-4
	2.1.3 Air Pollutant Control Devices/Techniques	2-4
	2.1.4 Type of Release (Point or Fugitive)	2-4
	2.1.5 Calculation of Air Pollutant Emissions Basis and Supporting Documentation	2-5
	2.1.6 Discussion on Applicability of Regulatory Requirements	2-6
	2.1.7 Re-Evaluation of Best Available Control Technology	2-6
	2.1.8 Does Change Require Updates to the Permit Descriptive Information or Permit Conditions	2-6

	2.1.9 Does Change Require Updates to the Air Quality and Additional Impact Analyses	2-6
3	Best Available Control Technology.....	3-1
	3.1 Best Available Control Technology (BACT) Evaluation Process.....	3-1
	3.1.1 Definition of BACT.....	3-1
	3.1.2 BACT Demonstration Approach.....	3-2
	3.2 Regulated Air Pollutants Subject to BACT Evaluation	3-4
	3.2.1 Best Available Control Technology	3-5
	3.2.2 Addition of Two Touch-up Coating Booths - Units OSP-4- SMBTU and OSP-4-PPTUB.....	3-5
4	Proposed Permit Changes	4-1
5	Air Quality Impact Evaluation	5-1
6	Application Forms	6-1

LIST OF TABLES

- Table 2-1 - Summary of Proposed Changes
- Table 2-2a - Potential Emissions of Volatile Organic Compounds (VOC) from Two New Coating Touch-Up Booths (Units OSP-4-SMTUB and OSP 4-PPTUB) - Coating Materials
- Table 2-2b - Potential Emissions of Particulate Matter (PM/PM10/PM2.5) from Two New Coating Touch-Up Booths (Units OSP-4- SMTUB and OSP 4-PPTUB) - Coating Materials
- Table 2-3 - Potential Emissions of Volatile Organic Compounds (VOC) from Two New Coating Touch-Up Booths (Units OSP-4-SMTUB and OSP 4-PPTUB) - Cleanup Materials
- Table 2-4a - Potential Emissions of Regulated Air Pollutants from Two New Coating Touch-Up Booths (Units OSP-4- SMTUB and OSP 4-PPTUB) - Overall Summary
- Table 2-4b - Summary of Potential Emissions of Regulated Air Pollutants from OSP-4 Plastic Shop

List of Figures

- Figure 1-1. Site Location in Relation to Huntsville, AL
- Figure 1-2. DNUS Location within the MTMUS Plant Site
- Figure 2-1. Process Flow Diagram – Proposed Touch-Up Coating Booths (Unit OSP-4-SMTUB & OSP-4-PPTUB)

Executive Summary

DaikyoNishikawa USA, Inc. (DNUS) is in the process of constructing a plastic parts manufacturing plant (herein defined as the Facility) at the location of the Mazda Toyota Manufacturing, U.S.A., Inc. (MTMUS) vehicle assembly plant, which is located in Huntsville, Alabama. This Facility will provide plastic parts to MTMUS and is considered part of the overall major stationary source that includes the MTMUS assembly process and the various Onsite Partners (OSP) that are located at the MTMUS plant site.

The City of Huntsville Natural Resources and Environmental Management Division (COH) has issued several PSD Air Permits to DNUS (OSP-4). These air permits are summarized below:

- 7-08-P391-Z401 - Toyota Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Waterborne Option) (Unit OSP-4-T3);
- 7-08-P391-Z402 - Toyota Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Solventborne Option) (Unit OSP-4-T3);
- 7-08-P391-Z403 - Mazda Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Waterborne Option) (Unit OSP-4-M4);
- 7-08-P391-Z404 - Mazda Line Plastic Parts Spray Booth and oven with Thermal Oxidizer (Solventborne Option) (Unit OSP-4-M4);
- 7-08-P391-Z405 – Toyota Line Miscellaneous VOC Operations (Unit OSP-4 -T1, T2, T4, T5 & T6);
- 7-08-P391-Z406 – Mazda Line Miscellaneous VOC Operations (Unit OSP-4-M1, M2, M3, M5, M6 & M7); and
- 7-08-P391-Z407 - Miscellaneous Natural Gas Fired Combustion Sources (Unit OSP-4-NG).

DNUS is proposing to add two touch-up coating booths at the Facility. The touch-up coating booths will be used to repair parts produced at the Facility. One booth will be used to repair parts that have been produced by the Facility's slush molding process and the second touch-up booth will be used to repair plastic parts produced at the Facility. For purposes of this air permit request the two touch-up booths have been assigned the following emission unit identification names:

- Unit-OSP-4-SMTUB – Touch-Up Booth for Slush Molding Parts; and

- Unit -OSP-4-PPTUB – Touch-Up Booth for Plastic Parts.

These two touch-up booths will have the following potential to emit emission rates of regulated air pollutants:

- 11.5 tons/year of volatile organic compounds (VOC); and
- 0.2 tons/year of particulate matter (PM), which includes PM₁₀ and PM_{2.5}.

These touch-up booths will be using coating materials that do not require natural gas fired curing ovens, as such are referred to as “Air Dried” coating operations. No natural gas fired combustion devices will be required to support these touch-up booths.

Since the Facility has not yet began initial startup, inclusion of these two touch-up booths is being considered part of the original design for the Facility and are conservatively being reviewed under the Prevention of Significant Deterioration (PSD) construction permit requirement. If these two booths were to be added after the Facility became operational, the emission rate increases noted above, in and by themselves would not trigger a PSD Major Modification.

Included in this application request is a discussion on each element of PSD review. The inclusion of these two touch-up booths will not change the source status of the Facility. The Facility will continue to be a Major Stationary Source under PSD, Title V Operating Permit Program and Major under Title III of the Clean Air Act for regulated hazardous air pollutants (HAPs).

As discussed in this application, the inclusion of the two touch-up booths will not cause an adverse impact to human health or the environment. The following sections, provide a discussion on the inclusion of the two touch-up booths, including a discussion on the emission rate changes, effect on applicable regulatory requirements, a BACT evaluation for emissions of VOC and PM₁₀ / PM_{2.5}, and the effect on ambient air quality.

DNUS is requesting that a new PSD Air permit be issued and would be specific to the two proposed touch-up booths. The permit number to be assigned for these touch-up booths would be:

- 7-08-P391-Z408 – Touch-up Coating Booths (Unit OSP-4-SMTUB and Unit OSP-4-PPTUB).

1 Introduction

As discussed in the executive summary, DNUS is proposing to install two touch-up coating booths that will be used to repairs parts that are produced by the: 1) slush molding process and 2) plastic parts processes. Refer to **Figures 1-1 and 1-2** for location of the DNUS Facility location in relationship to Huntsville, Alabama and the Facility's location within the MTMUS plant site.

For purposes of this air permit request, the two touch-up booths have been assigned the following emission units identification names:

- Unit-OSP-4-SMTUB – Touch-Up Booth for Slush Molding Parts; and
- Unit -OSP-4-PPTUB – Touch-Up Booth for Plastic Parts.

These two touch-up booths will have the following potential to emit emission rates of regulated air pollutants:

- 11.5 tons/year of volatile organic compounds (VOC); and
- 0.2 tons/year of particulate matter (PM), which includes PM₁₀ and PM_{2.5}.

These touch-up booths will be using coating materials that do not require natural gas fired curing ovens, as such are referred to as "Air Dried" coating operations. No natural gas fired combustion devices will be required to support these touch-up booths.

Since the Facility has not yet began initial startup, inclusion of these two touch-up booths is being considered part of the original design for the Facility and are conservatively being reviewed under the Prevention of Significant Deterioration (PSD) construction permit requirement. If these two booths were to be added after the Facility became operational, the emission rate increases noted above, in and by themselves would not trigger a PSD Major Modification.

1.1 Issuance of Air Permit

DNUS is requesting that the COH issue a new PSD Air Permit to allow for the initial construction and operation of the two touchup coating booths. The permit number to be assigned for these touch-up booths would be:

- 7-08-P391-Z408 – Touch-up Coating Booths (Unit OSP-4-SMTUB and Unit OSP-4-PPTUB).

1.2 Construction / Commencement of Operation Schedule

DNUS is actively involved in the construction of the building structure and supporting operations for the Facility. These activities have been approved by the construction / operating air permits issued by the COH. DNUS would like to install the touch-up coating booths as soon as possible and would appreciate the assistance of the COH with issuance of the permit in a timely manner.

It is DNUS' understanding that this permit may have to go through public notice.

1.3 Point of Contact for this Air Permit Request

The following individuals will be the primary contact on behalf of DNUS for answering any questions COH may have related to this Air Permit Request:

Contact Name: Mr. Steven Frey

Company Name: Kennedy/Jenks Consultants

Phone Number: (847) 271-5341

Email Address: stevefrey@kennedyjenks.com

**Mailing Address: 1515 East Woodfield Road, Suite 360
Schaumburg, IL 60173**

Contact Name: Mr. Eric B. Nelson – Safety Administrator

Company Name: DaikyoNishikawa USA, Inc.

Phone Number: (334) 707-1089

Email Address: e-nelson@dnusinc.com

**Mailing Address: 9000 Greenbrier Parkway NW, Unit #95
Huntsville, Alabama 35756**

1.4 Application Content

Included in this Air Permit Request is the following information:

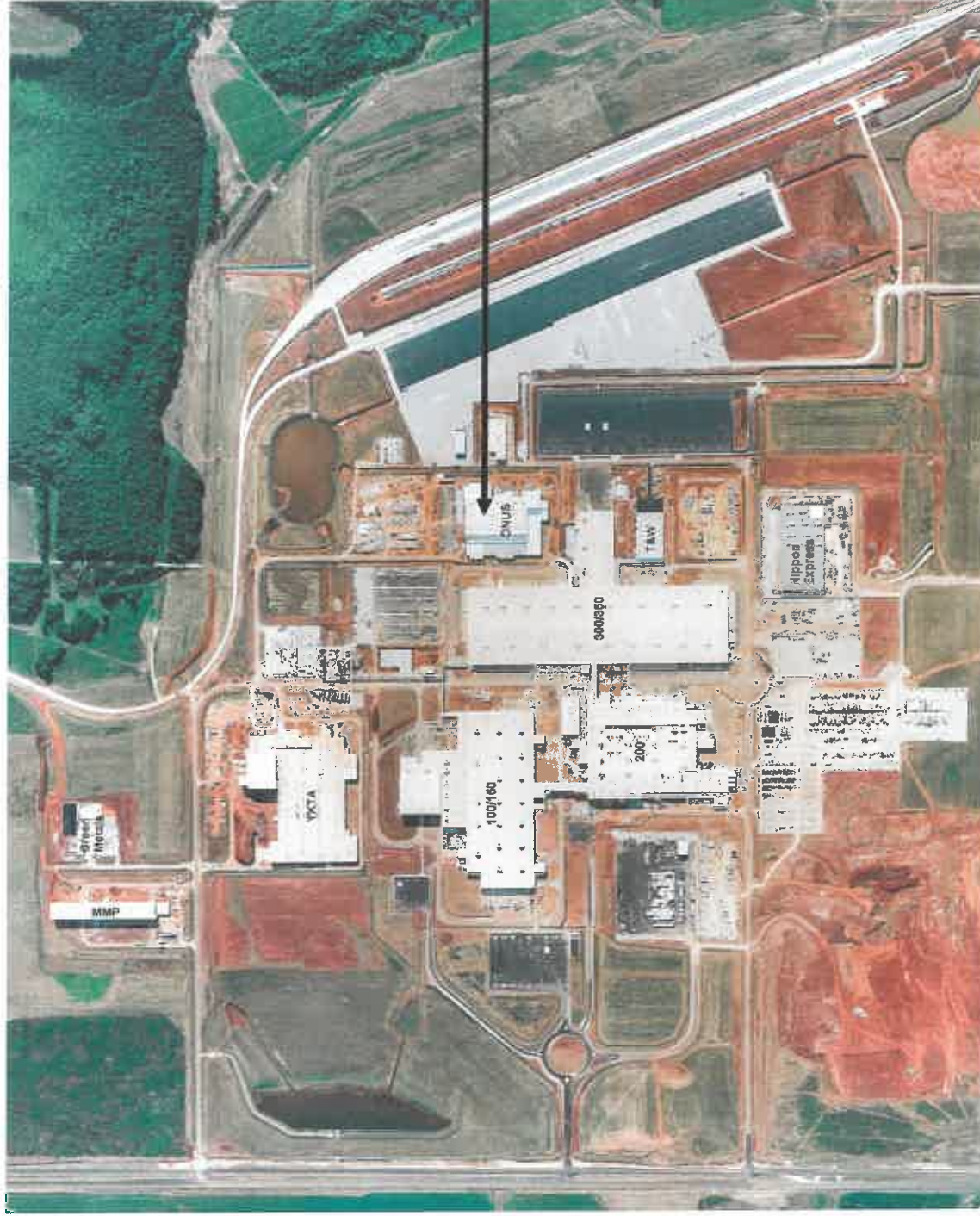
- **Section 2.0** discusses the two touch-up coating booths to be installed. Included in this discussion is sufficient information to a) identify the change to COH, b) define the change in emissions of regulated air pollutants resulting from the change, c) describe how the

change affects applicable state and federal air regulations, and d) describe how the change affects current permit descriptions and conditions.

- **Section 3.0** presents a BACT analysis for the proposed addition of the two touch-up coating booths;
- **Section 4.0** contains suggestions on how a new permit can be issued to incorporate the two touch-up coating booths;
- A discussion on the proposed changes and their minimal effect on human health and the environment is discussed in **Section 5**. An updated ozone impact analysis is provided in **Section 6.0**; and
- A list of applicable application forms is identified in **Section 7.0**. The completed application forms are also contained in this section.

Figure 1-1. Site Location in Relation to Huntsville, AL





Location of
DNUS



Figure 1-2. DNUS Location within the MTMUS Plant Site

Dai-koNishikawa USA, Inc. (DNUS)
Air Permit Request
March 2021

2 Description of Proposed Addition of Two (2) Touch-up Coating Booths

As discussed in the introduction, DNUS is providing information/data to support the inclusion of two touch-up coating booths, to secure an air permit to construct to be issued by the COH, for these two emission sources. The following subsections address the request for inclusion of the two touch-up coating booths, the pertinent affected equipment along with the methods used to calculate the emissions of regulated air pollutants and the applicable state and federal requirements.

The following proposed changes are discussed in this Section:

Installation of two touch-up coating booths that will be used to repairs parts that are produced by the: 1) slush molding process and 2) plastic parts processes. For purposes of this air permit request, the two touch-up booths have been assigned the following emission units identification names:

- Unit-OSP-4-SMTUB – Touch-Up Booth for Slush Molding Parts; and
- Unit-OSP-4-PPTUB – Touch-Up Booth for Plastic Parts.

2.1 Addition of Two (2) Touch-up Coating Booths – New Emission Source

Included in this section is a discussion on the proposed change, the resultant change in emissions of regulated air pollutants and other relevant information pertaining to the proposed change. The proposed changes are summarized in Table 2-1.

2.1.1 Description of Proposed New Emission Units: Unit OSP-4-SMTUB – Touch-up Coating Booth for Slush Molding Parts and Unit: OSP-4-PPTUB – Touch-up Coating Booth for Plastic Parts

DNUS is proposing to install and operate two (2) touch-up coating booths (Units: OSP-4-SMTUB and OSP-4-PPTUB. The two booths will be in separate enclosures that will have the following specifications:

- Booths will be equipped with spray applicator to apply air dried coating materials to repair imperfections found in slush molded parts and plastic parts;

- Booths will be equipped with walls and dry filters to collect any coating over spray;
- Booths will be used to repair parts on an as-needed basis and will not be continuous in its operation;
- Each enclosure (i.e., booth) will have its own exhaust system and supporting stack;
- Coating material to be used will be a two-component coating that consists of a solid/pigmented portion and a solvent based viscosity enhancer. The ratio of each material for a given gallon of coating will be a 0.5 gallons of solids/pigments and 0.5 gallons of solvent based viscosity enhancer;
- A solvent based material will be used to clean the spray applicators and any other equipment contained within each booth; and
- The anticipated usage rate of each coating material and cleanup material is summarized below:

Material Usage Rates

Material Description	Maximum Hourly Usage Rate (gallons/ hour)	Maximum Annual Usage Rate (gallons / year)
Unit OSP-4-SMTUB – Slush Molding Coating Booth		
Slush Molding Solids/pigment	1.5	1350
Slush Molding Solvent Based Viscosity Enhancer	1.5	1350
Slush Molding Cleanup Material	1.5	1560
Unit OSP-4-PPTUB – Plastic Parts Touch-up Coating Booth		
Plastic Parts Solids/pigment	0.15	120
Plastic Parts Solvent Based Viscosity Enhancer	0.15	120

Material Description	Maximum Hourly Usage Rate (gallons/ hour)	Maximum Annual Usage Rate (gallons / year)
Plastic Parts Molding Cleanup Material	0.1	60

- The coating material specifications for each material to be used in the touch-up booths is summarized below for the Slush Molding and Plastic Parts touch-up materials:

Material / Technical Specifications

Material Description	Coating Density (pounds/gallon)	VOC Content (pounds /gallon)	Solid Content (% by weight)	HAP Content (%)	Anticipated Transfer Efficiency (%)	Anticipated Dry Filter Removal Efficiency (%)
Unit OSP-4-SMTUB – Slush Molding Coating Booth						
Slush Molding Solids/pigment	9.42	0.0	100	0.0	50	95
Slush Molding Solvent Based Viscosity Enhancer	7.17	7.17	0.0	0.0	50	95
Slush Molding Cleanup Material	7.17	7.17	0.0	0.0	50	95
Unit OSP-4-PPTUB – Plastic Parts Touch-up Coating Booth						
Plastic Parts Solids/pigment	8.26	6.61	20	0.0	50	95
Plastic Parts Solvent Based Viscosity Enhancer	7.17	7.17	0.0	0.0	50	95
Plastic Parts Cleanup Material	7.17	7.17	0.0	0.0	50	95

Note: Please note materials to be used do not contain water. Future materials to be used should be similar, however will be reviewed to ensure that they are consistent with the technical specifications provided above.

Figure 2-1 depict the process flow of the proposed touch-up coating booths.

2.1.2 Potential to Emit a Regulated Air Pollutant

The use of touch-up coating materials has the potential to emit regulated air pollutants, specifically volatile organic compounds (VOCs) and particulate matter (PM/PM₁₀/PM_{2.5}). Refer to **Table 2-2a and 2-2b** which estimates emissions from the use of touch-up coating materials to be used in the Unit OSP-4-SMTUB and Unit OSP-4-PPTUB, respectively.

Since the coating materials will be applied using spray applicators there is a potential for a minimum amount of the coating material applied to not adhere to the parts being repaired. The amount of material not be applied is referred to as "overspray". As noted above in Section 2.1.1, the amount of overspray which is 1 minus the transfer efficiency will be within the enclosure, however the dry filtration system is anticipated to be at least 95% efficient of collecting that overspray material. The remaining 5% (i.e., uncontrolled overspray) will result in potential emissions of PM₁₀/PM_{2.5}. For purposes of the permitting request, a very conservative transfer efficiency of 50% is being used for emission calculation purposes. Actual transfer efficiency rates should be higher than 50%. Refer to **Table 2-2b** for the estimates of PM₁₀/PM_{2.5}.

The cleanup materials to be used in each touch-up booth will also have the potential to generate emissions of VOC. These cleanup materials do not contain solids, thus the potential for PM₁₀/PM_{2.5} emissions will not occur. Refer to **Table 2-3** for estimates of VOC from cleanupt materials.

These touch-up coating booths will not be equipped with any natural gas fired combustion units, thus there will not be any combustion related air pollutants associated with these coating processes.

Touch-up coating materials will most likely be located within each booth and a main coating application room and pumping system will not be utilized.

2.1.3 Air Pollutant Control Devices/Techniques

Add-on control devices or technologies will not be utilized to reduce VOC emissions from this source however, filtration will be utilized on the coating operations to minimize coating overspray thus reducing the potential for PM₁₀/PM_{2.5} emissions. Inclusion of VOC control technologies are typically not employed on touch-up coating boots because of the sporadic nature of the coating operation, minimum VOC emissions and minimal exhaust air flow.

2.1.4 Type of Release (Point or Fugitive)

The coating of slush molding and plastic parts requiring repairs is considered a point source since each touch-up booth will be equipped with a single exhaust stack.

2.1.5 Calculation of Air Pollutant Emissions Basis and Supporting Documentation

VOC Emissions

The use of touch-up coating / cleanup materials has the potential to emit regulated air pollutants, specifically VOCs. Refer to **Tables 2-2a and 2-3** for the proposed emission rates. Emissions are based on the VOC content of the material, the material usage rate and the number of vehicles.

Potential emissions of VOC emissions were calculated as follows:

$$\text{Uncontrolled pounds/hour} = \text{Material Usage (gallons/hour)} \times \text{VOC Content (pounds/gallon)}$$

$$\text{Uncontrolled tons/year} = \text{Material Usage (gallons/year)} \times \text{VOC Content (pounds/gallon)} / 2000$$

PM₁₀/PM_{2.5} Emissions

The use of touch-up coating materials has the potential to emit regulated air pollutants, specifically PM₁₀ / PM_{2.5} because of material overspray. Refer to **Table 2-2b** for the proposed emission rates. Emissions are based on the solid content of the material, the material usage rate, the transfer efficiency and the efficiency of dry filter removal system.

Potential emissions of PM₁₀/PM_{2.5} were calculated as follows:

$$\text{Uncontrolled lbs/hr} = \text{Material Usage (gallons/hour)} \times \text{Density (lb/gal)} \times \% \text{ Solids by Weight} \times (1 - \text{Transfer Efficiency})$$

$$\text{Controlled lbs/hr} = \text{Uncontrolled lbs/hr} \times (1 - \text{Control Efficiency})$$

$$\text{Uncontrolled tons/year} = \text{Material Usage (gallons/year)} \times \text{Density (lb/gal)} \times \% \text{ Solids by Weight} \times (1 - \text{Transfer Efficiency})$$

$$\text{Controlled tons/year} = \text{Uncontrolled tons/year} \times (1 - \text{Control Efficiency})$$

Total Emissions

These two touch-up booths will have the following potential to emit emission rates of regulated air pollutants:

- 11.5 tons/year of volatile organic compounds (VOC); and
- 0.2 tons/year of particulate matter (PM), which includes PM₁₀ and PM_{2.5}.

Tables 2-4a and 2-4b summarize the total emissions from the proposed touch-up coating booths and OSP-4.

2.1.6 Discussion on Applicability of Regulatory Requirements

The incorporation of the proposed touch-up coating booths does not affect applicability of the regulatory requirements identified for the Facility and defined in the previously issued air permits by the COH. It appears based on the coating materials and cleanup materials to be used that the touch-up booths will not trigger applicability of NESHAP Subpart PPPP. However, DNUS will evaluate future coating materials and cleanup materials to determine whether or not they contain regulated 112 (b) HAPs. DNUS will evaluate applicability / compliance with NESHAP Subpart PPPP for all future touchup coating materials and cleanup materials prior to being used at DNUS.

2.1.7 Re-Evaluation of Best Available Control Technology

BACT for proposed Units OSP-4-SMTUB and OSP-4-PPTUB will be as follows:

- *Use of Best Management Practices which includes written procedures on use of materials to minimize spillage.*

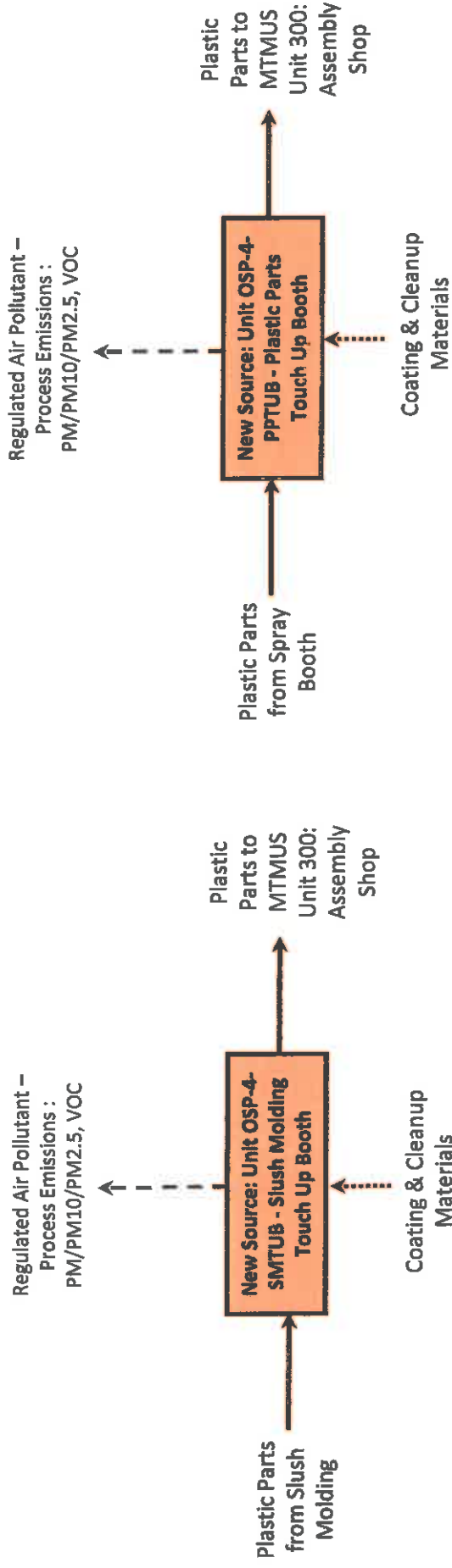
Refer to Section 3.0 for a BACT evaluation for the proposed touch-up coating booths.

2.1.8 Does Change Require Updates to the Permit Descriptive Information or Permit Conditions

DNUS is suggesting that a new separate permit be issued by the COH to address the proposed two touch-up coating booths only. This will avoid changes to any of the previously issued permits and established regulated air pollutant emission limits.

2.1.9 Does Change Require Updates to the Air Quality and Additional Impact Analyses

The proposed change results in an increase in VOC and PM₁₀/PM_{2.5} emissions. Refer to Sections 5.0 and 6.0 for a discussion on the minimal impact to human health and the environment.



PM/PM10/PM2.5 BACT: As with any assembly plant operations, it is the intent of DNUS to minimize the total number of plastic parts requiring paint repairs. A majority of the paint repair to be performed will be done manually and will not involve a significant amount of paint material spraying. As such the potential emissions of PM are considered insignificant. BACT for emissions of PM10/PM2.5 from the proposed touch-up coating booths is as follows:

- Incorporation of a dry filtration system; and
- Proper maintenance (i.e., periodic cleaning of the booth and filtration system).

VOC BACT: BACT for this the proposed touch-up coating booths is proposed as:

- Use of Best Management Practices which includes written procedures on use of the materials to minimize spillage.

 = Significant Emission Source



Figure 2-1. Process Flow Diagram -- Proposed Touch-Up Coating Booths (Unit OSP-4-SMTUB & OSP-4-PPTUB)

Dai-kyo Nishikawa USA, Inc. (DNUS)
Air Permit Request
March 2021



Table 1
DaikyoNishikawa USA, Inc. (DNUS)
Air Permit Request
Summary of Proposed Changes

Emission Point ID	Permitted Emission Point Description	Proposed Changes
New Emission Sources		
Unit OSP-4-SMTUB	Slush Molding Touch-up Booth	DNUS is proposing to install two new emission units and is requesting that these emission units be issued a common Permit. As part of this project, DNUS is not proposing any changes to the existing permits or the permitted emission units.
Unit OSP-4-PPTUB	Plastic Parts Touch-up Booth	
Permit 7-08-P391-Z401: Toyota Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Waterborne Option) (Unit OSP-4-T3)		
OSP-4-T3	Toyota Line Plastic Parts Spray Booth and Curing Oven (Waterborne Option)	No Proposed Changes
Permit 7-08-P391-Z402: Toyota Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Solventborne Option) (Unit OSP-4-T3)		
OSP-4-T3	Toyota Line Plastic Parts Spray Booth and Curing Oven (Solventborne Option)	No Proposed Changes
Permit 7-08-P391-Z403: Mazda Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Waterborne Option) (Unit OSP-4-M4)		
OSP-4-M4	Mazda Line Plastic Parts Spray Booth and Oven (Waterborne Option)	No Proposed Changes
Permit 7-08-P391-Z404: Mazda Line Plastic Parts Spray Booth and Oven with Thermal Oxidizer (Solventborne Option) (Unit OSP-4-M4)		
OSP-4-M4	Mazda Line Plastic Parts Spray Booth and Oven (Solventborne Option)	No Proposed Changes
Permit 7-08-P391-Z405: Toyota Line Miscellaneous VOC Operations (Unit OSP-4-T1, T2, T4, T5 & T6)		
OSP-4-T1	Toyota Line Interior Parts Spray Booth and Curing Oven	No Proposed Changes
OSP-4-T2	Toyota Line Injection Molding	No Proposed Changes
OSP-4-T4	Toyota Line Plastic Parts Misc. Cleaning Materials	No Proposed Changes
OSP-4-T5	Toyota Line Plastic Parts Purge Materials	No Proposed Changes
OSP-4-T6	Toyota Line Plastic Parts Wiping Solvents	No Proposed Changes
Permit 7-08-P391-Z406: Mazda Line Miscellaneous VOC Operations (Unit OSP-4-M1, M2, M3, M5, M6 & M7)		
OSP-4-M1	Mazda Line Interior Parts Spray Booth and Curing Oven	No Proposed Changes
OSP-4-M2	Mazda Line Injection Molding	No Proposed Changes
OSP-4-M3	Mazda Line Slush Molding	No Proposed Changes
OSP-4-M5	Mazda Line Plastic Parts Misc. Cleaning Materials	No Proposed Changes
OSP-4-M6	Mazda Line Plastic Parts Purge Materials	No Proposed Changes

Table 1
DaikyoNishikawa USA, Inc. (DNUS)
Air Permit Request
Summary of Proposed Changes

Emission Point ID	Permitted Emission Point Description	Proposed Changes
OSP-4-M7	Mazda Line Plastic Parts Wiping Solvents	No Proposed Changes
Permit 7-08-P391-Z407: Miscellaneous Natural Gas Fired Combustion Sources (Unit OSP-4-NG1)		
OSP-4-NG1	Plastic Shop HVAC with a total heat input of 18.0 MMBtu/hr	No Proposed Changes
OSP-4-NG2	Toyota Line Plastic Primer Booth AMU with a total heat input of 12.4 MMBtu/hr	No Proposed Changes
OSP-4-NG3	Toyota Line Plastic Basecoat Booth AMU with a total heat input of 12.4 MMBtu/hr	No Proposed Changes
OSP-4-NG4	Toyota Line Plastic Clearcoat Booth AMU with a total heat input of 13.8 MMBtu/hr	No Proposed Changes
OSP-4-NG5	Toyota Line Plastic Oven with a total heat input of 4.0 MMBtu/hr	No Proposed Changes
OSP-4-NG6	Toyota Line Plastic Thermal Oxidizer with a total heat input of 5.0 MMBtu/hr	No Proposed Changes
OSP-4-NG7	Toyota Line Interior Parts Booth AMU with a total heat input of 8.7 MMBtu/hr	No Proposed Changes
OSP-4-NG8	Toyota Line Interior Parts Oven with a total heat input of 2.1 MMBtu/hr	No Proposed Changes
OSP-4-NG9	Mazda Line Plastic Primer Booth AMU with a total heat input of 12.4 MMBtu/hr	No Proposed Changes
OSP-4-NG10	Mazda Line Plastic Basecoat Booth AMU with a total heat input of 12.4 MMBtu/hr	No Proposed Changes
OSP-4-NG11	Mazda Line Plastic Clearcoat Booth AMU with a total heat input of 13.8 MMBtu/hr	No Proposed Changes
OSP-4-NG12	Mazda Line Plastic Oven with a total heat input of 4.0 MMBtu/hr	No Proposed Changes
OSP-4-NG13	Mazda Line Plastic Thermal Oxidizer with a total heat input of 5.0 MMBtu/hr	No Proposed Changes
OSP-4-NG14	Mazda Line Interior Parts Booth AMU with a total heat input of 8.7 MMBtu/hr	No Proposed Changes
OSP-4-NG15	Mazda Line Interior Parts Oven with a total heat input of 2.1 MMBtu/hr	No Proposed Changes

Table 2a
DaikyoNishikawa USA, Inc. (DNUS)
Air Permit Request

Potential Emissions of Volatile Organic Compounds (VOC) from Two New Coating Touch-Up Booths (Units OSP-4-SMTUB and OSP-4-PPTUB) - Coating Materials

Description of Proposed Emission Unit	Description of Coating Process	Usage Rate (gallon/hour)	Usage Rate (gallon/year)	Density (pounds/gallon)	VOC Content (pounds/gallon)	Overall VOC Control Efficiency	Potential VOC Emissions (pounds/hour)		Potential VOC Emissions (tons/year)	
							Uncontrolled	Controlled	Uncontrolled	Controlled
New Source: Unit OSP-4 - SMTUB - Slush Molding Touch-up Booth	Two Component As Applied Coating Material	3	2700	8.90	3.59	0%	10.76	10.76	4.84	4.84
New Source: Unit OSP-4 - PPTUB - Plastic Parts Touch-up Booth	Two Component As Applied Coating Material	0.3	240	7.72	6.89	0%	2.07	2.07	0.83	0.83
Total Emissions							12.82	12.82	5.67	5.67

Note: The above touch-up coating materials are a two-component material. One gallon of coating is mixed with one gallon of thinner. The density and VOC content is based on the applied coating after being mixed.

Example Calculations

Uncontrolled pounds/hour = Material Usage (gallon/hour) x VOC Content (pounds/gallon)

Controlled pounds/hour = Uncontrolled pounds/hour

Uncontrolled tons/year = Material Usage (gallon/year) x VOC Content (pounds/gallon) / 2000

Controlled tons/year = Uncontrolled tons/year

Table 2b
 DaikyoNihonkawa USA, Inc. (DNUS)
 Air Permit Request
 Potential Emissions of Particulate Matter (PM/PM₁₀/PM_{2.5}) from Two New Coating Touch-Up Booths (Units OSP-4 - SMTUB and OSP-4-PPTUB) - Coating Materials

Description of Proposed Emission Unit	Description of Coating Process	Usage Rate (gallon/hour)	Usage Rate (gallon/year)	Density (pounds/gallon)	Transfer Efficiency	Control Efficiency	% Solids by Weight	Potential PM/PM ₁₀ /PM _{2.5} Emissions (pounds/hour)		Potential PM/PM ₁₀ /PM _{2.5} Emissions (tons/year)	
								Uncontrolled	Controlled	Uncontrolled	Controlled
New Source: Unit OSP-4 - SMTUB - Slush Molding Touch-up Booth	Two Component As Applied Coating Material	3	2700	8.30	50%	95%	57%	7.1	0.4	3.2	0.2
New Source: Unit OSP-4 - PPTUB - Plastic Parts Touch-up Booth	Two Component As Applied Coating Material	0.3	240	7.72	50%	95%	11%	0.1	0.006	0.051	0.003
Total Emissions								7.2	0.4	3.2	0.2

Note: The above touch-up coating materials are a two-component material. One gallon of coating is mixed with one gallon of thinner. The density and PM content is based on the applied coating after being mixed.

Example Calculations

Uncontrolled lbs/hr = Material Usage (gallons/unit) x Density (lb/gal) x % Solids by Weight x (1 - Transfer Efficiency)

Controlled lbs/hr = Uncontrolled lbs/hr * (1 - Control Efficiency)

Uncontrolled tons/year = Material Usage (gallons/unit) x Density (lb/gal) x % Solids by Weight x (1 - Transfer Efficiency) / 2000

Controlled tons/year = Uncontrolled tons/yr * (1 - Control Efficiency)

Table 3
DaikyoNishikawa USA, Inc. (DNUS)
Air Permit Request

Potential Emissions of Volatile Organic Compounds (VOC) from Two New Coating Touch-Up Booths (Units OSP-4-SMTUB and OSP 4-PPTUB) - Cleanup Materials

Description of Proposed Emission Unit	Description of Coating Process	Usage Rate (gallon/hour)	Usage Rate (gallon/year)	Density (pounds/gallon)	VOC Content (pounds/gallon)	Overall VOC Control Efficiency	Potential VOC Emissions (pounds/hour)		Potential VOC Emissions (tons/year)	
							Uncontrolled	Controlled	Uncontrolled	Controlled
New Source: Unit OSP-4 - SMTUB - Slush Molding Touch-up Booth	Two Component As Applied Coating Material	1.5	1560	7.17	7.17	0%	10.76	10.76	5.59	5.59
New Source: Unit OSP-4 - PPTUB - Plastic Parts Touch-up Booth	Two Component As Applied Coating Material	0.1	60	7.17	7.17	0%	0.72	0.72	0.22	0.22
Total Emissions							11.47	11.47	5.81	5.81

Note: The usage rates provided above represent the amount of cleanup material to be used to clean the spray applicators and any booth components.

Example Calculations

Uncontrolled pounds/hour = Cleaning Material Usage (gallon/hour) x VOC Content (pounds/gallon)

Uncontrolled tons/year = Uncontrolled pounds/hour

Controlled tons/year = Uncontrolled tons/year - Controlled tons/year

Table 4a

DaikyoNishikawa USA, Inc. (DNUS)

Air Permit Request

Potential Emissions of Regulated Air Pollutants from Two New Coating Touch-Up Booths (Units OSP-4- SMTUB and OSP 4-PPTUB) - Overall Summary

Process Category	PM/PM ₁₀ /PM _{2.5}		VOC		NO _x		CO		SO ₂		Lead	
	Lbs/Hour	Tons/Year	Lbs/Hour	Tons/Year	Lbs/Hour	Tons/Year	Lbs/Hour	Tons/Year	Lbs/Hour	Tons/Year	Lbs/Hour	Tons/Year
New Source: Unit OSP-4-SMTUB - Slush Molding Touch Up Booth												
Unit OSP-4-SMTUB Coating Usage	0.4	0.2	10.8	4.8	--	--	--	--	--	--	--	--
Unit OSP-4-SMTUB Cleanup Usage	--	--	10.8	5.6	--	--	--	--	--	--	--	--
Total Emissions	0.4	0.2	21.5	10.4	--	--	--	--	--	--	--	--
New Source: Unit OSP-4-PPTUB - Plastic Parts Touch Up Booth												
Unit OSP-4-PPTUB Coating Usage	0.006	0.003	2.1	0.8	--	--	--	--	--	--	--	--
Unit OSP-4-PPTUB Cleanup Usage	--	--	0.7	0.2	--	--	--	--	--	--	--	--
Total Emissions	0.006	0.003	2.8	1.0	--	--	--	--	--	--	--	--
Total of Combined Touch Up Booths												
	0.4	0.2	24.3	11.5	--	--	--	--	--	--	--	--
Total Combined Permitted Emissions for OSP 4	--	1.96	--	862.5	--	47.1	--	75.2	--	0.5	--	4,465-04
Total Combined Emissions for OSP 4 with the New Touch-Up Booths	--	2.12	--	874.0	--	47.1	--	75.2	--	0.5	--	4,465-04
Significant Emission Rate Threshold (TPY) - PSD												
	25/15/10		40		40		100		40		40	
Does Request for Inclusion of Two New Touch Up Booths Exceeds PSD Significant Emission Rate Level?	No		No		--		--		--		--	

3 Best Available Control Technology

3.1 Best Available Control Technology (BACT) Evaluation Process

Any major stationary source or major modification subject to PSD must conduct an analysis to ensure the application of Best Available Control Technology (BACT) has been applied in each piece of equipment having the potential to emit a regulated criteria air pollutant subject to PSD review. The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act (Act), in federal regulations at 40 CFR 52.21(j), in regulations setting forth the requirements for State implementation plan approval of a State PSD program at 40 CFR 51.166(j), and in the SIP's of the various States at 40 CFR Part 52, Subpart A - Subpart FFF.

As discussed in Section 2.0, DNUS is proposing to make the following changes:

- Addition of two touch-up coating booths – Units OSP-4-SMTUB and OSP-4-PPTUB. Section 3.2 presents a BACT analysis for these new sources, for emissions of VOC and PM₁₀/PM_{2.5}.

Since the Facility has not yet began initial startup, inclusion of these two touch-up coating booths is being considered part of the original design for the Facility and are conservatively being reviewed under the Prevention of Significant Deterioration (PSD) construction permit requirement. If these two booths were to be added after the Facility became operational, the emission rate increases noted above, in and by themselves would not trigger a PSD Major Modification.

3.1.1 Definition of BACT

The BACT requirement is defined as:

"an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Clean Air Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60 and 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design

equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results."

3.1.2 BACT Demonstration Approach

BACT is the most effective control option which is technically feasible considering economic, energy, and other environmental impacts. Control options can be eliminated as BACT on a basis of technical, economic, energy, or environmental considerations. The determination of BACT follows a Top-Down approach. In the top-down approach, progressively less stringent control technologies are analyzed until a level of control considered BACT is reached based on environmental, energy and economic impacts. The key steps in the Top-Down process are as follows:

- **STEP 1: Identify Available Control Technologies:** For the source, emissions unit, activity, or process requiring BACT, identify and list all "available" emissions control options for each pollutant. Available control options are those control technologies and techniques with a practical potential for application to the source, emissions unit, activity, or process. In general, any control option in commercial use in the United States at the time the analysis is performed should be included on the list of available control options.
- **STEP 2: Eliminate Technically Infeasible Options:** Considering site-specific factors and constraints, remove from the list compiled in STEP 1 all technically infeasible control options. A control option can be considered as technically infeasible if technical difficulties such as physical, chemical, or engineering constraints would preclude the successful use of the control option in the application in question. For all control options eliminated, demonstration that a control option is technically infeasible should be clearly documented in the BACT Analysis and included with the BACT submittal.
- **STEP 3: Rank Remaining Control Technologies by Control Effectiveness:** Rank and list all remaining control options in order of control effectiveness with the most effective control alternative at the top of the list. As noted above, the control technologies to be evaluated and ranked will apply to those associated with controlling emissions from similar emission sources.
- **STEP 4: Energy, Environmental, and Economic Considerations:** Using the "Top Down" procedure specified below, control options may be eliminated as BACT candidates based on energy, environmental, and economic impacts of the option. Energy impacts include but are not limited to energy efficiency impacts, fuel cycle efficiency considerations, and fuel

availability. Environmental impacts include but are not limited to ground water and water impacts, solid and hazardous waste impacts, and air quality impacts from increases in emissions of other air pollutants that result from implementing the control option.

Economic impacts include the sum of up-front capital cost and annual operation and maintenance costs of implementing the control option. A control option may be eliminated as a BACT candidate on grounds of significant energy, environmental, or economic impacts. Rationale for eliminating a control option should be well documented and included in the analysis. Economic impacts should be evaluated by comparing the cost effectiveness of the control option with generally acceptable cost effectiveness ranges for control of the pollutant in question.

The Top-Down process is defined in Steps 4A through 4E below:

- **STEP 4.A:** Start with the most effective control option from the list compiled in STEP 3 (i.e., those associated with controlling emissions from similar emission units.

- **STEP 4.B:** Provide the information specified in items (a) through (g) below for the control option being considered.

- a. **Control Efficiency:** Enter the percent of the pollutant removed by the control option. Control efficiency should be calculated based on the control achieved from the control option in question only.

- b. **Potential Emissions:** Potential emissions in pounds of pollutant per hour and tons of pollutant per year should be calculated based on the maximum potential to emit rather than actual emissions. Potential emissions represent the maximum capacity of a source, emissions unit, process, or activity to emit an air pollutant under physical constraints considering air pollutant emission controls and applicable regulatory limits. Operational factors such as hours of operation or partial loading which influence emissions may be included as constraints which limit the potential to emit provided that the project proponent agrees to incorporate these constraints in enforceable regulatory compliance limits.

- c. **Expected Emissions:** Expected emissions in tons of pollutant per year should be calculated considering expected operational considerations such as down time for maintenance, periods of partial load, capacity factors, etc.

- d. **Annual Expected Emission Reduction:** Using the expected emission rate computed in "c" and control efficiency entered in "a", compute the expected annual emission reduction in tons per year.

e. Annual Cost of Control Option: Compute the annual cost of the control option using standard economic principles. Annual cost should include both the initial capital costs as well as operation and maintenance costs. All costs should be amortized over the expected life of the control option (default is ten years). Include in the analysis the calculations, assumptions, and economic parameters used in the calculations.

f. Cost Effectiveness: Cost effectiveness is the ratio of the annual cost computed in "e" to the annual expected emission reduction computed in "d".

g. Other Considerations: List all other media impacts (water, solid waste, etc.) and energy impacts which are associated with the control option.

- **STEP 4.C:** If there are no outstanding issues regarding energy, environmental and economic impacts the analysis has been completed and this control option is proposed as BACT.

- **STEP 4.D:** If the control option is determined to be inappropriate due to energy, environmental, or economic impacts, this control option is eliminated and the analysis proceeds to the next control option on the list. Rationale for elimination of a control option on grounds of significant energy, environmental or economic impacts should be well documented and included with the analysis.
- **STEP 4.E:** Go to STEP 4.B and proceed with the analysis for the next control option on the list.

- **STEP 5: Documentation:** Include with the analysis all information, calculations, assumptions, and data used in making the BACT determination.

Since DNUS has selected the "Top-Level" of control or design with inherent control technique, considering any technical limitations, the BACT evaluation that follows does not address economic, energy and environmental impacts related to a specific control device. This follows EPA's suggested approach for performing this type of BACT evaluation.

3.2 Regulated Air Pollutants Subject to BACT Evaluation

As discussed above DNUS is proposing to install two touch-up coating booths that have the potential to emit emissions of VOC and PM₁₀/PM_{2.5}. Evaluation of BACT is provided in the following subsections.

3.2.1 Best Available Control Technology

As discussed, the BACT was performed following EPA's "Top Down" process. Also included in Section 3.1.1 is EPA's definition of BACT. In reviewing that definition, as well as other BACT guidance materials available through the EPA, the following key items can be extracted:

- **Item #1** – BACT is an evaluation to identify control options with a practical potential for application to an emission unit (i.e., available control options);
- **Item #2** – BACT should result in the maximum required reduction on a case-by-case basis accounting for environmental and economic impacts;
- **Item #3** – BACT should be evaluated for each individual emission unit. However, EPA encourages and supports logical grouping of emission units if the types of control to be evaluated would support grouping (i.e., units have essentially the same potential air pollutants);
- **Item #4** – If technical or economic limitations on the application of measurement methodology to an emission unit would make the imposition of an emission unit standard infeasible, a design, equipment, work practice standard or combination thereof, may be presented to satisfy the requirement for application of BACT;
- **Item #5** – PSD permitting authorities are encouraged by the draft NSR manual to evaluate logical grouping of emission units in each industry on a reasonable case-by-case basis;
- **Item #6** – Redefining the source is not a part of the general BACT evaluation process, if the applicant documents in the evaluation that the excluded option would have disrupted the applicant's basic business purposes for the Facility;
- **Item #7** – BACT evaluation allows for elimination of technical infeasibility. However, this must be based on physical, chemical or engineering principles; and
- **Item #8** – Control technologies considered by other sources and permitted must also be shown to achieve the limits defined under BACT.

3.2.2 Addition of Two Touch-up Coating Booths - Units OSP-4-SMBTU and OSP-4-PPTUB

DNUS is proposing to install two new sources: Unit OSP-4-SMTUB – Touch-up Coating Booth for Slush Molding Parts and Unit: OSP-4-PPTUB – Touch-up Coating Booth for Plastic Parts.

BACT For VOC Emissions from Emission Units OSP-4-SMTUB and OSP-4-PPTUB

Step 1: Identification of Control Technologies

And Step 2: Evaluation of Most Effective Controls

Volatile organic compound (VOC) emissions may result from applying touch-up coatings to repair parts produced by the slush molding and plastic parts manufacturing process. The coating materials to be initially used do not have the presence of ingredients that would be considered as HAPs under USEPA's 112b of the Clean Air Act. Potential emissions of VOC occurring from the use of these materials are considered a point source since each booth will be equipped with an exhaust stack. Since each booth will have its own exhaust system, it is possible that an add on control device, such as a thermal oxidizer could be installed. However, because of the sporadic nature of touch-up of parts that need to be repaired, the loading of VOCs present in the exhaust gas stream would not be sufficient to maintain an adequate destruction efficiency of the control device. In short, the control device would be using a significant amount of natural gas to maintain the devices combustion temperature and minimal VOC destruction efficiency.

DNUS will be employing repair touch-up materials that are required to achieve the quality requirements to support the slush molded and plastic parts. Refer to Section 2.0 for emission estimates from this process.

Step 3: Selection of BACT- VOC/HAP Emissions

To minimize VOC and any potential HAP emissions from the use of these materials or future change to these materials, DNUS is proposing the following as BACT:

- Use of Best Management Practices which includes written procedures on use of the materials to minimize spillage.

This level of control technology represents BACT for this process since there are no feasible controls and this specific material is required by DNUS to meet the quality requirements for this process.

Particulate Matter less than 10 microns (PM₁₀), Particulate Matter less than 2.5 microns (PM_{2.5}) – Emission Units OSP-4-SMTUB and OSP-4-PPTUB

Step 1: Identification of Control Technologies for Touch-Up Coating Booths and Step 2: Evaluation of Most Effective Controls:

The control technology commonly used for touch-up coating booths is a dry filter technology and represent the best technology for reducing coat overspray for these types of booths. DNUS will employ dry filtration within the two touch-up coating booths.

Step 3: Selection of BACT – PM₁₀/PM_{2.5} Emission Units OSP-4-SMTUB and OSP-4-PPTUB

BACT for emissions of PM₁₀/PM_{2.5} from the proposed touch-up coating booths is as follows:

- Incorporation of a dry filtration system; and
- Proper maintenance (i.e., periodic cleaning of the booth and filtration system).

4 Proposed Permit Changes

DNUS is requesting that the COH issue a new PSD Air Permit to allow for the initial construction and operation of the two touch-up coating booths. The permit number to be assigned for these touch-up booths would be:

- 7-08-P391-Z408 – Touch-up Coating Booths (Unit OSP-4-SMTUB and Unit OSP-4-PPTUB).

The new permit should include the following limit:

- Emissions of Volatile Organic Compounds (VOCs) from the combined emissions from DNUS (Units OSP-4-SMTUB and OSP-4-PPTUB) shall not exceed 11.5 tons per year (TPY) in any consecutive rolling 12-month period.

5 Air Quality Impact Evaluation

An air quality impact evaluation was not performed for emissions of PM₁₀/PM_{2.5} since the estimated increase of PM₁₀/PM_{2.5} emissions from the two touchup booths have been estimated to be 0.2 tons/year. As discussed previously, the touch-up booths will operate on an as-needed basis and will be equipped with dry filtration which is considered BACT in the removal of coating overspray from these booths. No noticeable opacity is anticipated during the operation of these touch-up booths.

An ozone air quality impact analysis was initially performed in support of issuance of the PSD permit(s) to MTMUS and the Onsite Partners. The total amount of potential VOC emissions evaluated was 2,363.6 tons/year. The outcome of that evaluation showed an impact to ozone air quality of 2.3 parts per billion (ppb) and inclusion with a representative background concentration resulted in a combined Ozone predicted concentration of 66.3 ppb. The Ozone NAAQS has been established at 75 ppb for an 8-hour period.

An increase of an potential VOC rate of 11.5 tons/year will have no affect on altering the calculated change in the ozone impact expressed in ppb. The potential increase reflects a change of 0.5% which would be an estimated change in ppb of 0.0115. As such the inclusion of the two touch-up booths would have no effect on ambient ozone levels, thus will not have an adverse impact on human health and the environment.

6 Application Forms

The COH application forms identified below are included in this section:

- APC 100 – Facility Identification Form
- APC 103 – Surface Coating Emission Sources
- Supporting Tables with backup technical information and data

Air Permit Application Forms

Document Submission Information

Please give us your name, email and contact number so we may contact you if needed regarding the document you are submitting.

Thank You.

First Name: Steve

Last Name: Frey

Email Address: stevefrey@kennedyjenks.com

Contact Phone Number: (847) 278-7705

**CITY OF HUNTSVILLE, ALABAMA
NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT**

**APPLICATION FOR PERMIT(S)
TO CONSTRUCT OR OPERATE AIR CONTAMINANT SOURCE(S)**

General Instructions For Completion of Permit Application Forms

The regulations for the control and abatement of air pollution require that a permit be obtained prior to the time construction, installation, alternation, or operation of an air contaminant source or facility is begun. In addition, a permit must be obtained when an emission source is:

- (a) to be replaced or altered in such a manner as to have an effect (either an increase or decrease) on the production or control of emissions;
- (b) to be moved to a new location;
- (c) to be operated by a new lease holder or owner.

The attached permit application forms are intended to be self-explanatory, and should, if properly completed, include the information necessary to adequately process an application in a timely manner. It is important that each stack, vent, etc. which may emit air contaminants be separately identified and that each air contaminant which is known or suspected to be emitted from each emission point or source be listed.

A single copy of Form APC 100, the Facility Identification Form, must be completed by all applicants. Multiple copies of Form APC 101, Manufacturing or Processing Operation, may be submitted to accommodate different operations within the facility. Multiple copies of this form may also be used to describe reasonably anticipated alternate operation scenarios, so as to allow for operational flexibility in preparation of the permit. Multiple copies of other forms may be employed in the same manner. Several of the application forms are rather specific. This approach has been employed to simplify the application process for selected operations which are performed by a large number of facilities.

Any information included on the forms, other than emissions data, that divulges production or sales figures, methods, processes or production techniques unique to such person, or would otherwise tend to affect adversely the competitive position of such person, should be noted by inserting the word "confidential" in the margin next to the appropriate item. Any information that is requested to be kept in confidence must be justified by a written statement setting forth the reasons for the request. Information not marked "Confidential" will be available for public inspection.

Applicants are encouraged to contact the Manager of the Huntsville Division of Natural Resources and Environmental Management at (256) 427-5750 if there are any questions. Personnel of the department will be happy to assist applicants in completing the required forms.

**APPLICATION FOR PERMIT(S)
TO CONSTRUCT OR OPERATE AIR CONTAMINANT SOURCE(S)**
FACILITY IDENTIFICATION FORM

Date: 3/8/2021

1. Name of firm or Organization:

DaikyoNishikawa USA, Inc.

2. Facility Locations (Address):

<u>9000 Greenbrier Parkway NW, Unit #95</u>	<u>Huntsville</u>	<u>35756</u>
Street Address	City	Zip Code

Mailing address if other than facility location:

Street Address

<u>City</u>	<u>State</u>	<u>Zip Code</u>
-------------	--------------	-----------------

3. Name and address of owner:

DaikyoNishikawa USA, Inc.

<u>Name of owner</u>	<u>Phone Number</u>
----------------------	---------------------

<u>9000 Greenbrier Parkway NW, Unit #95</u>	<u>Huntsville</u>	<u>AL</u>	<u>35756</u>
Street Address	City	State	Zip Code

4. Name and address of responsible official:

<u>Douglas Vanata</u>	<u>Plant Manager</u>
-----------------------	----------------------

<u>Printed or typed name</u>	<u>Title</u>
------------------------------	--------------

<u>9000 Greenbrier Parkway NW, Unit #95</u>	<u>Huntsville</u>	<u>AL</u>	<u>35756</u>
Street Address	City	State	Zip Code

<u>d-vanata@dnusinc.com</u>	<u>(252) 916-3946</u>
Email	Phone Number

5. Name of facility contact: Steve Frey

Printed or typed name

<u>Community of Practice Leader Air Services</u>	<u>stevefrey@kennedyjenks.com</u>	<u>(847) 278-7705</u>
Title	Email	Phone Number

6. Permit application is made for:

- | | |
|--|--|
| <input type="checkbox"/> Existing source (Initial application) | <input checked="" type="checkbox"/> Modification |
| <input type="checkbox"/> New source (to be constructed) | <input type="checkbox"/> Change of ownership |
| <input type="checkbox"/> Change of location | <input type="checkbox"/> Other (Specify) |
| <input type="checkbox"/> Existing source (permit renewal) | |

If application is being made to construct or modify, please provide the name and address of installer or contractor

TBD - Not Determined at this Time

Printed or typed name

Title

Street Address

City

State

Zip Code

Email

Phone Number

Date construction/ modification to begin _____ to be completed _____

7. Permit application is being made to obtain the following type permit:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Air Permit | <input type="checkbox"/> Major Source Operating Permit |
| <input type="checkbox"/> Synthetic Minor Source Operating Permit | <input type="checkbox"/> General Permit |

8. Indicate the number of each of the following forms attached and made a part of this application: (if a form does not apply to your operation indicate "n/a" in the space opposite the form). Multiple forms may be used as required.

- ☐ APC 101 - Manufacturing or Processing Operation
- ☐ APC 102 - Indirect Heating Equipment
- ☒ APC 103 - Volatile Organic Compound Surface Coating Emission Sources
- ☐ APC 104 - Solvent Metal Cleaning
- ☐ APC 105 - Loading, Storage & Dispensing Liquid & Gaseous Organic Compounds
- ☐ APC 106 - Refuse Handling, Disposal, and Incineration
- ☐ APC 107 - Air Pollution Control Device
- ☐ APC 108 - Compliance Schedule
- ☐ APC 109 - Stationary Internal Combustion Engines
- ☐ APC 110 - Continuous Emission Monitors

9. General nature of business: describe and list appropriate standard industrial classification (sic) code:

Vehicle Assembly Plant - SIC 3711 "Motor Vehicles and Passenger Car Bodies"

12. List any insignificant activities to be exempted from major source operating permits:

Not Applicable

13. List and explain any exemptions from applicable requirements the facility is claiming:

Not Applicable

14. Check any of the following which are emitted into the atmosphere from any operation at this facility:

☒ Arsenic ☒ Beryllium ☒ Lead ☐ Asbestos
☒ Cadmium ☒ Mercury ☐ Vinyl Chloride

15. List below other attachments that are a part of this application (all supporting engineering calculations must be appended):

Refer to Section 2 of the permit application

I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS APPLICATION ARE TRUE, ACCURATE AND COMPLETE.


Signature of Responsible Official

3/11/21
Date

Plant Manager
Title

16. Sketch plant layout showing major process sections, stack locations, and location of property lines and nearby streets and highways.

DNUS is not proposing any changes to the site layout / stack locations that were provided in the initial permit application

17. For those making application for a synthetic minor or major source operating permit, please summarize each pollutant emitted, the emission rate for the pollutant, and the specific process, emission unit or source of the pollutant. Indicate those pollutants for which the facility is major.

[illegible]

18. For those applying for a major source operating permit, indicate the compliance status by program for each emission unit or source and the method used to determine compliance. Also cite the specific applicable requirement.

Emission or source: Not Applicable (description)

Program Requirement	Compliance Status	Method to be Used to Determine Compliance
Non-attainment NSR		
NSPS		
NESHAP (40 CFR 61)		
NESHAP (40 CFR 63)		
Accidental Release (112r)		
TITLE I		
TITLE IV*		
Enhanced Monitoring		
TITLE VI		
Other (Specify)		

* Sources subject to requirements under title IV must complete and submit nationally standardized application forms.

PERMIT APPLICATION FOR VOLATILE ORGANIC COMPOUND (VOC) SURFACE COATING EMISSION SOURCES

1. Name of firm or organization: DaikyoNishikawa USA, Inc.

2. Type of surface coating process:

☐ Can Coating

☐ Flatwood Paneling Coating

☐ Coil Coating

☐ Paper, Fabric and Vinyl Coating

☐ Metal Furniture Coating

☐ Magnet Wire Coating

☐ Surface Coating of Large Appliances

☐ Automobile and Light Duty Truck Manufacturing

☒ Misc. Metal Parts and Products

☐ Other (Specify): _____

3. Briefly describe the operation of this surface coating process in your facility:

Refer to Section 2 of the application for a discussion on the proposed touch-up coating booths that are being addressed in this application.

As per approval of COH, attached find a emission source summary sheets that list all the emission sources being addressed in this application and the required information as listed on the forms.

4. Normal Operating Schedule:

Hours Per Day: 24 Days Per Week: 7 Weeks Per Year: 52

Peak Production season (If any): _____

5. Coating material used in unit or process (as applied).

[illegible]

6. Description of organic liquid diluents (coating thinners & additives) added to the surface coatings:

Diluents	Amt. added per gallon	Coating Material	Total gal./yr.	Density lbs./gal.	%WT Water	%WT VOC
Refer to Section 2 of the application						

7. Description of all organic liquid solvents used for wash or clean up:

Solvents	Total gal./yr.	Density lbs./gal.	% WT water	% WT VOC
Refer to Section 2 of the application				

8. After coating, materials are: ☐ Oven Dried ☒ Air Dried
 If oven dried, include fuels used, if any. (Exclude fuels used by indirect heating equipment previously described on form APC102.)

Coal: N/A (tons/year) % Weight Sulfur: N/A

% Weight Ash: N/A

Fuel Oil: N/A (gal./year) Grade No.: N/A

% Weight Sulfur: N/A

Natural Gas: N/A (thousand cu. ft./year)

L. P. Gas: N/A (gal./year)

Other(specify): N/A

9. Air contaminant emission points: (Each point of emission should be listed separately and numbered so that it can be located on the attached flow sheet):

Emission Point	Stack Height Above Grade (ft)	Stack Diameter (ft)	Volume of Gas Discharged (SCFM*)	Exit Temp (°F)
Stack	parameters were	provided in Section 5	of the initial application	
	The stacks for the touch-up booths are still being designed			

*standard temperature is 68°F - standard pressure is 29.92" in HG.

10. Air contaminants emitted: basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form: fugitive emissions must be included and calculations must be appended.

Emission Point	Pollutants	Amount		Basis of Estimate
		Per Hour (lbs)	Per Year (tons)	
Refer to	Section 2 of the	application		

11. Is there any emission control equipment on this unit or process?

Yes ☐

No ☒

(If "yes", completed from APC107)

12. Is this surface coating process in compliance with all applicable air pollution rules and regulations?

Yes ☒

No ☐

(If "no", complete Form APC108)

Steve Frey

Name of person preparing application

Signature

Steve Frey

Date

Using a flow diagram, illustrate locations of air contaminant release so that emission points under item 10 can be identified.

Refer to Section 2 of the application for process flow diagrams of the surface coating operations discussed in this application.

Figures depicting stack locations were provided in Section 5 of the initial permit application. DNUS is not proposing any changes to those stacks as part of this permit application

FLOW DIAGRAM

This table only includes emission units that are discussed in this air permit(s) revision request

Description	Plastic Shop (Unit OSP-4) - Manufacturing (molding, painting and assembly) of plastic exterior parts (i.e., bumpers) and various interior parts will be performed in the plastic parts shop, which is identified as On-Supplier 5 (OSS-5). For purposes of this application, all manufacturing and painting of plastic exterior parts (i.e., bumpers) and interior parts have been grouped into OSS-5. The plastic parts shop is independent of other assembly operations and will consist of its own building.
Description	<p>Unit OSP-4-SMTUB – Touch-up Coating Booth for Slush Molding Parts - Installation of touch-up coating booth that will be used to repairs parts that are produced by the slush molding process.</p> <p>Unit: OSP-4-PPTUB – Touch-up Coating Booth for Plastic Parts - Installation of touch-up coating booth that will be used to repairs parts that are produced by the plastic parts processes.</p>
Emission Sources	Unit-OSP-4-SMTUB – Touch-Up Booth for Slush Molding Parts
Emission Sources	Unit-OSP-4-PPTUB – Touch-Up Booth for Plastic Parts
Related Natural Gas Combustion Devices	The touch-up coating booths will not be equipped with any natural gas fired combustion units. No changes to previously permitted natural gas fired combustion devices.
Control Devices	Add-on control devices or technologies will not be utilized to reduce VOC emissions from this source however, filtration will be utilized on the coating operations to minimize coating overspray thus reducing the potential for PM10/PM2.5 emissions. Inclusion of VOC control technologies are typically not employed on touch-up coating boots because of the sporadic nature of the coating operation, minimum VOC emissions and minimal exhaust air flow.
Stacks	The coating of slush molding and plastic parts requiring repairs is considered a point source since each touch-up booth will be equipped with a single exhaust stack. The parameters of those stacks are still be designed.
Uncontrolled Emission Estimates	<p><u>Unit OSP-4 - SMTUB - Slush Molding Touch-up Booth</u></p> <p>PM/PM10/PM2.5 - 7.1 lbs/hr, 3.2 tpy VOC - 21.5 lbs/hr, 10.4 tpy Regulated Haps - None</p>
Uncontrolled Emission Estimates	<p><u>Unit OSP-4 - PPTUB - Plastic Parts Touch-up Booth</u></p> <p>PM/PM10/PM2.5 - 0.1 lbs/hr, 0.05 tpy VOC - 2.8 lbs/hr, 1.0 tpy Regulated Haps - None</p>

This table only includes emission units that are discussed in this air permit(s) revision request

State/Federal Requirements	<p><u>Control of Volatile Organic Compounds - Surface Coating</u></p> <p>Section 8.11.6 of the City of Huntsville Air Pollution Control Rules and Regulations and ADEM Admin Code 335-3-6-.11 apply to Automobile and Light Duty Truck Manufacturing Coating. The requirements contained in Section 8.11.6 are more stringent than the requirements in 335-3-6-.11 and are summarized below:</p> <p>(a) No owner or operator of an automobile or light-duty truck manufacturing plant subject to this Section shall cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of:</p> <p>(1) 1.2 pounds per gallon of coating, excluding water, delivered to the applicator during prime coating operations.</p> <p>(2) 2.8 pounds per gallon of coating, excluding water, delivered to the applicator during top coating</p> <p>(3) 2.8 pounds per gallon of coating, excluding water, delivered to the applicator during final repair coating operations.</p> <p>The provisions of this Section apply to the application area(s), flash-off area(s), and oven(s) of automotive and light-duty truck manufacturing plants involved in prime, topcoat, and final repair coating operations.</p> <p>Section 8.11.10 also contains requirements related to Miscellaneous Metal Parts and Products Coating however Section 8.11.10(c) states that the requirements do not apply to automobiles and light-duty trucks.</p> <p>The requirements of this rule apply to the DNUS facility but are not applicable to Unit-OSP-4-SMTUB – Touch-Up Booth for Slush Molding Parts and Unit -OSP-4-PPTUB – Touch-Up Booth for Plastic Parts.</p>
State/Federal Requirements	<p><u>40 CFR 63, Subpart PPPP - NESHAP for Surface Coating of Plastic Parts and Products</u></p> <p>A facility is subject to this subpart if an affected source is new, reconstructed or existing and uses 100 gallons per year of coatings that contain HAPs in the surface coating of plastic parts and products. Compliance for new sources must be demonstrated by the date of initial startup for the affected source.</p> <p>The following emission limitations are stipulated under this subpart:</p> <p>1) For each new general use coating affected source, limit organic HAP emissions to no more than 0.16 lb/lb of coating solids used during each 12-month compliance period.</p> <p>2) For each new automotive lamp coating affected source, limit organic HAP emissions to no more than 0.26 lb/lb coating solids used during each 12-month compliance period.</p> <p>3) For each new thermoplastic olefin (TPO) coating affected source, limit organic HAP emissions to no more than 0.22 lb/lb coating solids used during each 12-month compliance period.</p> <p>In addition to these emission limitations, the subpart includes notification, recordkeeping and reporting requirements.</p>
State/Federal Requirements	<p><u>40 CFR 63, Subpart PPPP - NESHAP for Surface Coating of Plastic Parts and Products</u></p> <p>DNUS has identified the following operations associated with the Facility that meet the applicability criteria of this subpart:</p> <ul style="list-style-type: none"> • Surface coating of interior parts; and • Surface coating of exterior parts (i.e., bumpers and rocker panels). <p>It appears based on the coating materials and cleanup materials to be used that the touch-up booths will not trigger applicability of NESHAP Subpart PPPP. However, DNUS will evaluate future coating materials and cleanup materials to determine whether or not they contain regulated 112 (b) HAPs. DNUS will evaluate applicability / compliance with NESHAP Subpart PPPP for all future touchup coating materials and cleanup materials prior to being used at DNUS.</p>

DaikyoNishikawa USA, Inc. (DNUS)

Emission Group: OSP-4 - Regulated Air Pollutant Emission Sources for On-Site Partner #4 - Plastic Shop

This table only includes emission units that are discussed in this air permit(s) revision request

Compliance Method	Emissions based on VOC content (lbs/gallon) and material usage (gallons/unit). Record monthly material usage rates and calculate emissions of VOCs and PM/PM10/PM2.5 in lbs/hr and tons/year.
Proposed BACT	<u>Unit OSP-4 - SMTUB - Slush Molding Touch-up Booth</u> PM/PM10/PM2.5 - Incorporation of a dry filtration system and proper maintenance (i.e., periodic cleaning of the booth and filtration system). VOC - Use of Best Management Practices which includes written procedures on use of the materials to minimize spillage.
Proposed BACT	<u>Unit OSP-4 - PPTUB - Plastic Parts Touch-up Booth</u> PM/PM10/PM2.5 - Incorporation of a dry filtration system and proper maintenance (i.e., periodic cleaning of the booth and filtration system). VOC - Use of Best Management Practices which includes written procedures on use of the materials to minimize spillage.